THE GIR FOREST AND ITS LIONS

BY

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Part II

(*With a plate*)

(*Continued from page* 514 *of Volume* 48)

1. The Test Count (M.A. W-B.)

Although delays and difficulties made it impossible to hold the census in April 1949 as I had hoped, sanction (and finance) was finally accorded in December, mainly through the efforts of the Revenue Minister, Mr. Samaldas Gandhi. The future working of the scheme was further simplified by the appointment of my friend, and member of the Society, K. S. Banesinhji, as Collector of Junagadh.

Consequently December 26th saw us once again driving from Junagadh to Jamwala in the same old Ford V8. Our journey proceeded smoothly (in a strictly metaphorical sense) until we attempted to cross the Singavada at Budheshwar temple close to Jamwala. Here the river was deeper than we foresaw and we found ourselves stranded in mid-stream with water flooding over the floor. An amphibious operation rescued Prudence (our small daughter whom we were introducing to the Gir Forest) and we settled down to await the arrival of the salvage party. This came within the hour, 15 strong and with two bullocks and hauling tackle. The car was heaved through the river and we reached Jamwala without further incident in time for a late tea.

That there were considerably more lions around Jamwala than there had been the previous year soon became obvious. As the year had been one of good rains there were many less cattle in the forest, with the natural result that lions were hanging around the border villages seeking what they might devour. In addition, a large number of the forest nesses had been closed on suspicion of harbouring and helping dacoits.

As early as the evening of the first day after our arrival a pair of lions obligingly killed a large buffalo only five hundred yards away from the rest house. When we went along to have a look at them at 10.00 p.m., our party, perhaps fifteen strong, had no difficulty in driving them off their kill. We then settled ourselves behind a scrubby growth of *Zizyphus nummulata,* that particularly thorny species of *bor,* exactly eight yards from the kill, and waited for something to happen. Within three minutes we heard a soft but heavy pad . . pad . . pad, followed by the sound of gnawing, just the sound of a large dog gnawing a bone. Having allowed this to continue for a minute or two, we sprang up and flashed our torches on the scene. The disturbed lioness (for it was only she) gave us a brief glance of annoyance before making off to join her mate forty yards away among the trees. And there they remained until we left half an hour later.

The following day a beat was arranged for the purpose of taking a photograph, but once again this was not a success, for, although on this occasion we were ensconced in the safety of a *Sterculia* tree with a fine view all around, the moment the lion appeared, Mr. Bhatt, the A.F.O., who did not seem to have the simple trust in lions which everyone else displayed, called out quite loudly and clearly 'Halt'. The lion obeyed like a guardsman, immediately spotted Mr. Bhatt, and, the dislike apparently being mutual, broke to the left at top speed through the line of beaters, and neither he nor his mate were seen any more.

Nor was this the end of our excitements, for having had a close view of two lionesses the next day, in the early hours of the following morning a pair of lions raided the village, bursting into a flimsy hut right at its centre that contained two cows and three calves. Roused by the commotion the villagers drove the lions from the hut, but not before a calf had been killed and a cow mauled. One lion broke out on the opposite side from which he had entered, bounded over a seven foot wall and made for the river: from the other side burst the wounded cow which rushed down the village street closely followed by the second lion, pursued in his turn by the enraged villagers. The cow finally charged and broke a stout wooden door in an attempt to gain the sanctuary of a safe courtyard in which she ordinarily lived: the lion continued down the road in the direction of the railway station.

When we examined the cow in the light of day, although she was looking very sorry for herself, the damage suffered was mainly to her nervous system, for she had escaped lightly with one or two gashes on both sides of her neck, injuries very similar to those I had seen on the neck of a mauled cow in the near-by village of Kansaria. The latter had been saved by a herd of buffaloes standing close by, which had charged the lion and driven him away.

The main object of this visit to the Gir was to hold a test count of lions over some small area to give us very necessary experience before planning and working the April census. The area chosen was the southern 2/3 of the Jamwala Division, a tract of about 110 sq. miles. As the methods, with a few modifications, were much the same as those employed in the census held four months later, it is unnecessary to go into the details of its working at this point.

This test count turned out to be an extremely satisfactory operation. As it was held over a relatively small area we were able to supervise it very thoroughly, and the encouraging and important facts to emerge were the reliability of the supervisors and enumerators, and the whole-hearted interest and co-operation of everyone concerned. Had I not been convinced of the former it would, of course, have been futile to attempt to hold the census.

We had early evidence that the total tally would be greater than I had expected, for on our tour of inspection on December 31st, the day previous to the count (a day devoted to cancelling out old pug-marks), between us we discovered eight different sets of fresh pug-marks without going very far from headquarters.

I was therefore not surprised when the final total worked out at 42.

The day of the count ended in personal disaster, for having toured through Bhaka and Thordi checking up pug-marks and finding everything in order, we continued over a road of the most appalling description to Banej Nes and thence in the direction of Chhodawadi, until a pothole proved the final undoing of Junagadh State Car 37. There was a sharp report and the fore portion of the old warrior settled ominously onto her front wheels. After inspection our driver announced with great satisfaction, for he was a confirmed pessimist, that both centre bolts, front and back, were smashed. We staggered on as far as Chhodawadi where he set about the task of making temporary repairs. These he told us, with almost fiendish glee (he had always been prophesying that some such disaster was inevitable on the roads over which we had been travelling), would take three hours.

Not wishing to be benighted in the jungle I decided to walk back to Jamwala, feeling quite sure I should cover the 11 miles before the arrival of those I was leaving behind — — they viewed the prospect of walking with more than disfavour. I should also be able to send out a rescue party and allay alarm in those who had been left at home.

The car, after all, was ready in two hours, but finally broke down at Dhabala, and its occupants then had to walk whether they liked it or not.

I arrived just after dark after a pleasant stroll in the cool of the evening. Conscience had compelled Nur Mahommed to accompany me and between us we had found the pug-marks of no less than six different panthers, an interesting sidelight on the abundance of this animal in the Jamwala forests.

Results of the Test Count held in the southern 2/3 of the Jamwala Division on January 1st 1950

Centre	Lions	Lionesses	Young	Total
Janwadla	5	3	0	8
Jamwala	11	5	1	17
Thordi	3	3	3	9
Jhankia	4	2	2	8
Totals ...	23	13	6	42

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2. The Census (M.A. W-B. & K.S.D.)

a. Methods.

It should not be thought that this lion census was undertaken lightly, for it was the culmination of eight weeks' field work and twenty months' intermittent research.

The census was based on three factors: that lions must drink at least once in the twenty-four hours; that they travel for preference along roads and paths; and that the pug measurements of two lions are seldom identical.

If the drinking places were limited in number, and the ground

at them always suitable for the reception of pug-marks, there would be no need to search further afield. But this is far from the case as there is much water in the forest, and its edges are often rocky, grass-covered or of coarse shingle. The roads and paths, are, on the contrary, at the season chosen for the census (end of April), covered with a fine dust, a perfect medium for recording pug-marks. Therefore if a search is made wherever there is water, and over a judicious selection of roads and paths (more concentrated attention being paid to areas most favoured by lions), with absolutely exact enumeration the pug-marks of practically every lion should be found. Even if lions do not travel along paths or roads they are reasonably certain to cross them and will so enter into the count.

However, as perfection can hardly be expected, the count was held on two consecutive days, the second day being relied upon to produce the majority of lions which had escaped enumeration on the first day.

In the Baroda territory enumeration also took place on the third day, with satisfactory results, as this is an area relatively sparsely inhabited by lions. In areas thickly populated with the animals a third count would probably defeat its own ends owing to the difficulty of sorting out the large mass of information so collected.

The success of the census naturally depended on the accurate measurement of the pug-marks, and more attention was paid to impressing on supervisors and enumerators the method of measurement and need for accuracy in it, both by aid of diagrams and by examples in the field, than to anything else in the census.

The measurements taken were the length and breadth of the pug-mark of the forefoot — — that is the length and breadth of a rectangle exactly fitting its outermost extremes.

Careful examination of large numbers of pug-marks had shown me that the figures so produced, whilst constant in individual lions (provided the measurements were not taken on an unsuitable surface), were remarkably variable between different lions.

The measurements were taken with specially prepared sticks, red for the first day, blue for the second (red, blue and white in Baroda), broken to the correct measurement.

The census covered an area of between 700 and 800 square miles, including the whole of the Gir Forest and the revenue areas at its edges where lions might be expected to roam. It was probably the biggest operation of its kind ever undertaken.

The whole tract was divided into 5 divisions:—Jamwala, Jasadhar, Visavadar, Baroda and Sasan. Sasan, being of unwieldy size was subdivided into three circles: Alawani, Sasan and Andhania-Talala-Devalia. The Assistant Forest Officers of the divisions (the Sub-Divisional Forest Officer in Baroda) were responsible for dividing their divisions into smaller units, or centres, and in co-operation with the supervisor of each centre for appointing enumerators and allotting to them their beats.

The small forest area of Mytiala, beyond the eastern limits of the Gir, was left to the care of the Grass Officer, Gohelwad. The overall organisation was M. A. Wynter-Blyth's.

The management of the Sasan-Visavadar sector was in the hands of K. S. Dharmakumarsinhji of Bhavnagar and Yuvraj Shree

Pratapsinhji of Wankaner (both members of the B.N.H.S.): Baroda in the hands of Mr. Shah, sub-D.F.O., Amreli: Jamwala-Jasadhar in the hands of Major Dubois and myself.

Our duties were to see that the scheme was carried out according to plan, to visit all the centres, to check as much work as possible in the field—in short, to appear as often as possible in as many places as possible.

The following instructions were issued in writing to all supervisors, together with a diagram showing the method of measuring pug-marks:

1. Supervisors must see that enumerators know the beats allotted to them and that they understand exactly the method of measurement of pug-marks. They must explain the latter to every enumerator personally both by aid of the attached diagram and by practical demonstration. They must impress on enumerators the need for accuracy in making these measurements.

2. Red sticks will be used for the first day; blue sticks for the second. The pug-mark of the forefoot will be measured.

3. Enumerators must remember the exact locality in which they found pug-marks, whether lions were moving singly, in pairs and so on. They must also collect lion *khabar* from *maldharis* and others.

4. Unless unavoidable, pug-marks must not be measured in coarse sand or shingle. If they are measured in such surfaces the fact must be reported to the supervisor.

5. Enumerators must report at their centres at daybreak on April 27th, and devote the morning of that day until noon to searching for and cancelling out old pug-marks. Counting will take place from dawn until noon on both the 28th and 29th. On the 28th pug-marks must again be cancelled out to eliminate any risk of their being counted a second time on the 29th.

6. Enumerators should work in pairs. Men on daily wages (unless known to be very experienced in the jungle) should, wherever practicable, be paired with a beat guard.

7. Measurement sticks are to be brought to the centres as soon as possible after noon on each day of the census and handed to the supervisor who will label each pair of sticks with the information required under heads 3 and 4.

8. Bundles of sticks will either be collected at the centres or brought to the divisional headquarters by the supervisors, whichever is considered advisable.

9. Jasadhar and Baroda Divisions only. Enumerators are, in addition, to estimate the sex of the lions whose pug-marks they find.

After the sticks had been collected I measured them and entered the figures and all relevant information on two series of maps, one for each day. From the data so produced I eliminated every second, third or more enumeration of the same lion on the one day, at the same time including in the final total all lions that had appeared on only one of the two days. The final total, therefore, was made up of lions that had appeared on both days and lions that had been counted only once.

For example: Let it be supposed that division X, after the preliminary processes of elimination had been completed, had produced 25

lions on the first day and 28 lions on the second. Of these, 20 lions were found to be common to both days, 8 new lions had appeared on the second day but on that day 5 lions that had been enumerated, on the first day were not found. Total count: 33 (subject to a cross-check with adjacent divisions).

A lion might have been counted twice by one enumerator, or in more than one beat, centre or even division. Any pug-marks with similar measurements found within a radius of at least five or six miles were suspect, and, unless I had grounds for allaying these suspicions, only one of them was counted, but, naturally enough, a certain latitude in measurement had to be allowed.

In many instances other data assisted in the decision. For instance, whether lions were travelling singly, in pairs or in larger groups, whether the pug-marks were those of a lioness with cubs, and (Jasadhar and Baroda only) the sex of the animals, though, as will be seen later, estimation of sex by pug-marks is subject to error.

Any 'cubs' found unaccompanied by grown lions were eliminated (unless the pug-marks had been seen by ourselves) on suspicion of being panthers.

In the second day's count the majority of lions that had appeared on the first day could be identified without much difficulty, generally near where they had been found the day before, seldom more than four or five miles away.

An interesting point is that had I divided the gross total of sticks as they were handed in to me by two, the result would have been precisely one less than my final total after the arduous and complicated process of elimination and inclusion!

b. Results.

Lion Census held on April 28th and 29th, 1950

Division		Grown Lions	Young Lions	Totals
Jamwala[1]	...	39	6	45
Visavadar	...	19	5	24
Sasan				
(Alawani Circle	...	12	4	16
Sasan Circle	...	14	4	18
A.T.D. Circle	...	24	10	34)
Totals for Sasan	...	50	18	68
	Males	Females		
Baroda	19	5	3	27
Jasadhar	23	14	8	45
Mytiala	1	nil.	nil.	1
Totals counted	...	170 grown lions	40 young lions	210
Girnar	...	3 lions		3
Hill of Sana	...	6 to 14 lions		6 to 14

Final total 219 to 227 lions.

[1] In proportion these figures are considerably smaller than those recorded in the Test Count. This is due to a large forest fire that occurred just before the census, driving much of the game out of the division.

Notes on the above table

(*a*) *Girnar lions.*

These lions were not counted and the figures are based on reports, but there is little doubt that three lions were resident in the Girnar at the time of the census. It is likely that lions would permanently repopulate these jungles if allowed to do so.

(*b*) Hill of Sana lions[1].

On arrival at Sasan we were assailed by rumours of large numbers of lions wandering about in the revenue areas, often some distance from the forest. However, in point of fact the census recorded very few lions indeed from such areas (except from Talala Mahal where, as it is semi-forest, they are resident) and, with one exception, none at all far away from the forest boundaries.

The truth of the matter is, I fancy, that lions have recently been making occasional sorties at night some distance into the revenue lands, returning to the forest early the next morning. As such lions appear in places where they are not normally seen at this season, considerable fuss is made about them and the reports are exaggerated.

The exception to the above was the pride of lions resident (at least temporarily) at the Hill of Sana, an area not included in the census as it had been considered too far from the forest to contain any lions.

Whilst at Jasadhar on the 26th we heard rumours of a pride of 11 to 13 lions 'somewhere in Barbariawad'. Later a report came from the Grass Officer, Gohelwad, of a pride of 7 to 9 lions in Dedan, and finally I received a letter from the Collector, Junagadh, in which he told me that when he visited the Hill of Sana on the 29th the villagers reported that a pride of 14 lions, including lionesses and cubs, had been about the previous night, and that 6 grown lions had been seen that same morning.

(*c*) Estimate of the actual number of Gir lions.

The figures in the above table should be regarded as minimum figures. I am certain there are not less lions than they indicate.

On the other hand, as it was found that 12% of new lions (i.e. 20 in all) appeared on the second day of the census in the Saurashtra divisions, it seems reasonable to suppose that there may be up another 12% still uncounted.

In Baroda 8 new lions appeared on the second day and 4 on the third. Another 4 may not have been counted?

The Mytiala figure may be taken as exact, whilst those for the Girnar and Hill of Sana lions allow of sufficient latitude for them to remain unaltered.

On the basis of these calculations the maximum lion population will be between 243 and 251.

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[1] Since the date of the census 8 lions in all, probably belonging to this pride, have been shot at Mytiala. One of them was a man-killer. (Footnote dated 1-12-1950).

The exact number of lions is, after all, of purely academic interest. What is required are figures by which the future condition of the lions may be gauged. These the census has provided.

(*d*) Distribution.

The distribution of lions in the forest is regulated by the joint factors of the presence of water and their main supply of food . . . that is, domestic stock. This year the distribution was unusual owing to the closure of many of the forest nesses, very few lions being found in the central forest area. The majority was recorded near the forest edges and further into the Gir along certain watercourses where nesses are still occupied.

The closure of the forest nesses is probably responsible for the occasional sorties the lions have been making well into the revenue areas, for these are unusual at this time of the year.

Lions were most abundant in and around the Devalia Preserve and near Jasadhar village.

Two 8 to 10 day old cubs were found in the Mandwi centre of the Jasadhar Division.

Lions found in the Sasan Division were of small average size: those in the Jasadhar Division were large.

In all, 6 very large lions were recorded (animals with pug-marks of over 7 inches in length), 4 in the Jasadhar Division and one each in Jamwala and Baroda.

(*e*) Proportion of males to females.

Except in the Baroda and Jasadhar Divisions enumerators were not instructed to give the sex of lions whose pug-marks they found, because, in my experience, the results of such estimates are often incorrect. Nevertheless, in the light of such evidence as there is (the table given in Vol. 48 No. 3 of lions shot and found dead being the most important), and as long as there is a lack of any to the contrary, it must be assumed there is a preponderance of males. It should be noted, however, that both Dharmakumarsinhji and many experienced pagis hold the opposite view.

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3. Conclusions and Recommendations

I am not prepared to hazard an opinion as to whether there are more lions now than there were in 1936, the year of the previous census. Nevertheless, that their numbers decreased between 1936 and 1947 seems more than probable. Nor can this be considered surprising when one sees the host of trophies, shot in the States where the lions were unprotected, that adorn so many of the princely homes of Kathiawar. Although lions were carefully preserved in Junagadh State (where about three were shot each year), some were also shot in the Jetpur and Baroda Gir, at Mytiala. As mentioned before, it is no exaggeration to say that as soon as any lion wandered out of the forest into the territories of the adjoining small States someone was after its skin. It was not unknown for such States

to have permanent arrangements in force to account for any lion that crossed their borders, with young buffaloes tied up nightly in suitable places, permanently erected machans and machinery for the prompt reporting of a kill.

These small States accounted for perhaps 10 to 12 lions yearly, and they have been killed as far away from the Gir as in the 'cactus' jungles at Mangrol.

Now, however, both as a result of the impressions received during my two most recent visits to the Gir, and the high proportion of young lions recorded in the census, I am convinced that they are once again on the increase.

This is only to be expected if the rigid restrictions on the shooting of lions and their potentialities of rapid increase[1], are borne in mind, for between November 1947 and March of this year no permits to shoot them were granted and only a negligible number was poached. In March the situation was considered sufficiently satisfactory to allow the shooting of four male lions per year. This, it should be remarked, is the *only* measure for their control and protection that is strictly enforced at the moment[2].

The census figure of 40 young lions was based on pug measurements taken at the Junagadh Zoo. Those whose fore pug measurements were less than 4″ in length were considered to be cubs of under 6 months, and those with pug-marks of under 4½″ to be certainly no older than 18 months.

Out of these 40, 21 belonged to the first category and 19 to the second, so that, in all probability, approximately 30 of them were born within the last 12 months[3]. Unless it is assumed that the average life span of a Gir lion is a mere seven years (an assumption for which there are no grounds whatever[4]) a simple arithmetical sum will indicate that an increase in their numbers must be taking place.

This is all to the good as it shows that the general condition of the lions is healthy and that they are in no immediate danger of extinction.

However, there is as yet no room for complacency. Because they are now on the increase, there is no reason to be sure that the increase will continue. Though it is in all probability due to the rigid restrictions of the past 30 months, we cannot be certain of this. As is well known cycles of increase and decrease (phenomena whose causes are little understood) are common in nature.

As the Gir Forest is the last home of the Asiatic Lion, if only for reasons of pride in this fact, it is to be assumed that Saurashtra

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[1] A Gir lioness in the Junagadh Zoo produced a litter of three cubs in August 1949 and another of five six months later. I imagine, unless the entire first litter fails to survive, two litters within the year are extremely unlikely in the wild state. Information about this would be most valuable.

[2] But refer to footnote on p. 7.

[3] Bear in mind that the death of very young cubs will not enter into these calculations, as such cubs will not normally enter into the census.

[4] According to Major S. S. Flower (*P.Z.S.*, 1931 : 162) an African wild lion is in his prime of life when 5 to 6 years old. The chances of his remaining alive after 10 years depend on his individual cleverness and the absence of competitors for food.—Eds.

will do her utmost to see to the proper preservation of these animals, even, if necessary, at considerable cost to Government, and will ensure that they never again run any risk of extinction.

Any relaxation of control will undoubtedly lead to their rapid disappearance — — there is no chance now in these days of jeeps, and wholesale destruction of game, of lions lingering on in small numbers as they did during the early days of this century.

For the efficient working of any scheme of protection it seems rational to urge that the entire Gir Forest be turned into a properly constituted Lion Preserve with a responsible Warden and an adequate staff. This need not interfere with the legitimate claims of forestry because efficient management of the forest, especially afforestation and the prevention of jungle fires (the scourge of the Gir) will be of the greatest assistance in protecting the lions.

In the light of the census figures I can see no reason to suggest any modification in the quota of permits to shoot lions that are being granted at the moment. It is important, however, that another census should be held at the end of two years (and thereafter at regular two yearly intervals) and that any necessary modifications in the numbers shot be made in accordance with its results.

The shooting of specified numbers of lions can control any increase in their numbers and forestall the dangers of over-population, which may of itself bring about a reduction in numbers together with a general weakening of the stock, or cause the lions to become a menace to the countryside outside the Gir. The reopening of the closed forest nesses as soon as circumstances permit will be a precaution against the latter.

At the same time attempts should be made to reduce the losses of domestic stock within the forest[1]. It must, however, be stressed strongly that the very large majority of such losses is due to the carelessness of the *maldharis* themselves in bringing home their herds after dark, letting animals stray and failing to secure them properly at night. Furthermore, they are fatalistic about them, taking them very much as a matter of course. Perhaps they may be regarded as the bill Saurashtra has to meet for the privilege of providing a home for the lions, and as a kind of fee the *maldhari* has to pay for the admirable grazing grounds he is allowed to use at a purely nominal rent. Nevertheless, *maldharis* should be urged or compelled to pay more attention to the safety of their animals. Propaganda can do much and has performed more difficult tasks than this.

It is most important that arrangements should be made for the registering of such losses.

If the lions are to be broken from their predilection for domestic stock there must be enough wild game in the forest to supply their needs. At the moment the forest holds a fair quantity of game, though how this compares with years gone by I am not in a position

[1] cf. Table of Losses of Cattle and Buffaloes in Vol. 48 No. 3. During my visit to Jamwala in Dec. 1949 I adopted the expedient of collecting information on losses of individual *maldharis* instead of whole villages and nesses as being more likely to be accurate. The results were about 40% less than those given in the table.

to state, but if there is enough for the needs of, say, 250 lions is more than doubtful. Therefore it is reasonable to suggest that the shooting of forest game should be completely banned. An exception *may* be made of panthers (which are very abundant) as they draw largely upon the same supplies of food as the lions. Unfortunately, as the instinct to poach is so deep rooted in many otherwise respectable persons, this may defeat its own ends, as holders of permits may be found to wreak havoc among other kinds of game.

Whatever authority is in direct charge of the preservation of lions should keep careful records of those that are shot, with their measurements and other relevant details, and of lions found dead, with their sex, probable age and, whenever possible, cause of death.

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The work of the census was full of incident and has left us with a host of memories.

For myself perhaps the main recollection is of the unbelievable discomfort and dust of travelling the appalling forest tracks in an open jeep under the hot weather sun. For Dubois the most exciting moment must have been on the night of his arrival when he awoke from his sleep on Jamwala railway platform to find a panther at his side, eyeing him, so he says, with a lean and hungry look. For the Yuvraj of Wankaner, at the other end of the Gir in the Devalia Preserve, a remarkable experience was to watch a lioness pass between the tree holding his machan and the ladder leading up to it. It was, he tells me, a very low machan.

Once again I have recollections of Jasadhar, that most remote of places with its strangely attractive African landscape of acacia jungle and grass-covered hills. Strangely attractive, too, are the sonorous names of its habitations . . . Wankajambu, Tulsishyam, Vejalkotha, Chikalkuba, Nandivelo, Timberwa. It was at Jasadhar that we were compensated for the fruitless evenings we had spent waiting for panther at Christmas, when one found sleeping close to the Rawal river came out within three minutes to the bleating of a goat to be shot in the glaring light of mid-day. Nor shall we forget the dumb patience with which a bull, terribly mutilated by lions, awaited his end in the village. It was here too that the hospitable Mr. Sheikh entertained us to yet another Lucullan lunch.

The final act of the census was a visit to the Junagadh Zoo to check up on the pug measurements of young lions and cubs.

On arrival I was startled to find an infuriated young lion penned up for me in a small transportable cage fitted with a sliding partition so that its unfortunate occupant could be flattened helpless against its bars. Keepers stood by with brush, bottle of ink and several large sheets of white paper! Interesting though this experiment would have proved I felt compelled to call a halt to it and explain that it was pug-marks on the ground that I wished to measure. This, they said, was easy and led me forthwith into the cage of a lioness, where I had no difficulty in getting the data I required. Fortunately it was easy to keep her to the far side of the enclosure, but I did regard it as unnecessary for the door to be bolted after we had entered. The younger cubs presented no difficulty.

Photos *Bhatt Art Studio, Junagadh*

Young Gir lions on buffalo

Had we held the census three days earlier our preliminary conference at Sasan would have left us with an even more exciting memory, for the notorious dacoit Visamanjaria and three of his confederates were ambuscaded and shot dead in one of the rooms of the rest house.

The History of the Lion in Junagadh State 1880 to 1936

as derived from Junagadh State Records

(M.A W-B.)

As early as 1880 Colonel Watson considered that there were not more than a dozen lions in the Gir Forest, though there were almost certainly more than this, as the official estimate of 1893 gave a total of 31. However, that the lions were in real danger of extinction by the end of the century was indicated by another official estimate made in 1900, in which the total had dropped to 19, inclusive of 8 cubs, though, as these figures were largely based on guesswork, too much reliance should not be placed on them. There was plenty of indirect evidence that there were more lions than these figures indicated . . . especially the amount of damage done by them, and the numbers that were regularly shot outside Junagadh territory.

1899-1900 were the years of the Great Kathiawar Famine when almost all the game in the Gir Forest died from lack of water, and this had undoubtedly seriously affected the already dwindling stock of lions. Lord Curzon, who had at that time been invited to Junagadh to shoot a lion, on being informed of the situation (he was told that only about 12 lions remained) promptly cancelled his visit, and urged the Nawab (H. H. Rasulkhanji) to take steps to save the animals from extinction. The Nawab immediately agreed to do whatever was in his power, and from this dates the first attempt at their protection. Shortly afterwards, however, the Nawab wrote to the Viceroy complaining that he was receiving no co-operation from neighbouring States, and asked for his assistance. This must have been given, for both Jetpur and Baroda States promised a certain measure of help, though it will be seen that a complete ban on the shooting of lions proved impracticable.

At this time, too, probably because the Nawab was the prime mover in their protection, and because the great majority of the animals lived in his forest, arose the claim that all lions were his property, no matter in whose territory they were living. This was a somewhat unreasonable premise seeing that lions without a doubt also bred and had their being throughout the year in both the Baroda and Jetpur Gir, and one that was even less tenable as the Nawab steadily refused to admit any compensation for damage done by *his* lions in foreign territory.

And so in 1901 was recorded a complaint from the people of Mendarda, in Jetpur, about damage done there by lions, and a demand either for compensation from the Junagadh Darbar, or that Junagadh should stock their forest with goats to attract *their* beasts back to it.

No compensation was granted or considered, and no goats were sent to the forest.

In the same year it was reported that in seven months lions had killed 352 domestic animals, 2 women, one boy, and had seriously mauled a man, around the villages of Aritha, Valadar, and Harmadia in the Baroda territory to the south of the Gir. 'Lions are much bolder and enter villages during the daytime and fearlessly attack men and cattle. The police have had to exert themselves to protect human life', so reads the report. In fact they had killed one lion near Ghantwad, which seems justifiable under the circumstances, but which nevertheless brought forth a strong complaint from Junagadh. However, in reply, the Gaekwar amended his Act of 1876 which had permitted the destruction of certain kinds of game in protection of life and crops, specifically excluding lions from it, though at the same time reserving to himself the right of ordering their destruction if he thought it necessary.

The following year another lion was shot in self-defence near Ghantwad, calling forth a similar complaint from Junagadh. Lieutenant O'Brien, a political officer who had killed the lion, stated in his report that in the years 1899 and 1900 almost all the game in the forest had died off, and the lions at the time of writing were living on the edge of the Gir and preying solely on cattle with occasional human victims. He added that they had established a regular reign of terror in the Ghantwad district where a boy had been killed and eaten not long before, and that the lions had become so bold that in April they had torn the roof off a hut in a village to get at the goats inside. Two men had recently been killed as far away from the Gir as the Kodinad district. He concluded his report by stating that Junagadh must make arrangements to tie up cattle within their borders to feed the lions. In reply Junagadh suggested that the villagers should protect their cattle (and themselves) by beating drums and letting off fireworks.

In 1903 the annual trouble recurred when a lion was killed in self-defence just over the Baroda border on the banks of the Singavada River. However, at that time the situation was becoming too awkward for even the Nawab himself. In his own State in 1901, 31 men had been killed and 8 mauled by lions, and though no figures can be found for the years 1902 and 1903, it is unlikely that there was any great decrease in deaths from this cause, as 29 men were killed and 11 mauled in 1904 and the lions were once more described as becoming 'very bold'. It was, we are forced to believe, the difficulties caused in his own State rather than the complaints of his neighbours, who, on the contrary, seem to have been remarkably long-suffering, that led to the Nawab's decision in that year to 'use his discretion in shooting the lions'. And so ended the first attempt at their protection.

As the lions were maddened with hunger at that period owing to the shortage of food caused by the famine, it is probable that protection was impracticable except by the drastic step of keeping large herds of cattle and goats in the Gir exclusively for the purpose of feeding them. This obviously could not be done when man, slowly recovering from the famine years, had full need of the flocks and herds himself, and, indeed, such an action would be a matter of doubtful morality at the best of times.